

Qingming Zhang

From: Kerry D. Brouillette <kerry.brouillette@c-ka.com>
Sent: Thursday, September 15, 2016 2:14 PM
To: Qingming Zhang
Subject: LOOP Permit items
Attachments: LOOP Flex Paragraph.docx

Qingming,

Please see attached for paragraph explaining the number of landing LOOP has permitted as it pertains to business needs. Flexibility to meet customer demand for storage and movements is primary for LOOP.

Please let me know if you have any questions.

Kerry Brouillette
Air Quality Program Manager



17170 Perkins Road
Baton Rouge, LA 70810
225-755-1000 Office
225-923-6437 Direct
225-223-0972 Cell
www.c-ka.com

The Louisiana Offshore Oil Port (LOOP) storage facilities in Clovelly, Louisiana continuously receive and distribute crude oil. LOOP facilitates movement of various crude oils from different parts of the world, as well as specific crudes from oil fields in the Gulf of Mexico and the continental United States.

The primary business of the Clovelly Tank Facility is to provide a means for customers to distribute products from producers to customers quickly. The above ground tanks operated at the facility are strategic to segregate specialty grades of crude oil for LOOP's customers. Customers with unique requirements can isolate their supplies and protect the quality specifications of the crude oil sent to refineries.

The tanks have floating roofs and efficient bottoms, allowing them to be emptied and handle varying grades of crude oil. The nature of LOOP's business requires that the facility's aboveground tanks are able to be emptied and filled frequently to meet customer demand for movements of differing grades of crude.

The ability to drain the tanks of one type of crude in order to re-fill with a differing type of crude is a critical process step required to maintain the quality of the crude variety without contamination. Maintaining quality reflects directly to the end user (refiner's) ability to maintain a reliable and efficient refining operation (typical crude oil quality characteristics to protect include sulfur content, water content and specific gravity).

The current Title V permit allows 90 landings and the current Title V application is not proposing to change this number. This number of landings gives LOOP the flexibility to accommodate their customers' needs for crude oils with varying compositions.

Qingming Zhang

From: Kerry D. Brouillette <kerry.brouillette@c-ka.com>
Sent: Thursday, September 15, 2016 2:28 PM
To: Qingming Zhang
Subject: LOOP Clovelly Storage GHG Emissions Summary
Attachments: LOOP Clovelly GHG Emissions Summary.pdf

Qingming,

Please see attached for GHG emissions from fuel burning equipment at the Clovelly Dome site (AI 4634).

Please let me know if you have any questions.

Kerry Brouillette
Air Quality Program Manager



17170 Perkins Road
Baton Rouge, LA 70810
225-755-1000 Office
225-923-6437 Direct
225-223-0972 Cell
www.c-ka.com

Potential to Emit

LOOP LLC Port Complex
Lafourche Parish, Louisiana

Engine Data								
TEMPO ID	EPN	Description	Fuel Type	Brake Hp	Annual Operating Hours	Specific Fuel Consumption (Btu/hp-hr) ^{a,d}	Heat Input (MMBtu/hr) ^b	Annual Heat Rate (MMBtu/yr) ^c
EQT0009	15-78	Fourchon Booster Station - Standby Generator	Diesel	805	100	7,000	5.64	564
EQT0011	17-78	Operations Center Standby Generator	Diesel	671	100	7,000	4.70	470
EQT0012	18-78	Emergency Crude Transfer Pump (Cloveilly Dome)	Diesel	860	100	7,000	6.02	602
EQT0014	20-78	Cloveilly Fire Pump	Diesel	274	100	7,000	1.92	192
EQT0015	21-78	Standby Generator - Brine Storage Reservoir (Cloveilly Dome)	Diesel	108	100	7,000	0.76	76
EQT0018	35-88	Fire School Pump (Cloveilly Dome)	Diesel	400	100	7,000	2.80	280
EQT0019	38-91	Operations Center - Fire Pump (Cloveilly Dome)	Diesel	500	100	7,000	3.50	350
EQT0020	5-99	Crude Oil Tankfarm Firewater Pump (Cloveilly Dome)	Diesel	1,100	100	7,000	7.70	770
EQT0021	1-07	470 bhp Emergency Generator (Small Boat Harbor)	Diesel	470	100	7,000	3.29	329
EQT0022	2-07	470 bhp Emergency Generator (Tank Facility)	Diesel	470	100	7,000	3.29	329
EQT0023	3-07	671 bhp Emergency Generator (Cloveilly Dome)	Diesel	671	100	7,000	4.70	470
EQT0024	4-07	671 bhp Emergency Generator (Cloveilly Control Room)	Diesel	671	100	7,000	4.70	470
EQT0025	5-07	268 bhp Emergency Generator (OC Warehouse)	Diesel	268	100	7,000	1.88	188
EQT0026	6-07	168 bhp Emergency Generator (LOCAP)	Diesel	168	100	7,000	1.18	118
EQT0047	1-10	520 hp Emergency Generator Standby Generator	Diesel	520	100	6,496	3.38	338
TBD	1-16	(Cloveilly Dome)	Diesel	671	100	7,000	4.70	470

^a Given that specific data is unavailable for these engines (except for EPN 1-10), this calculation uses the average brake-specific fuel consumption from AP-42 Table 3.3-1, Footnote :

^b calculated; (Btu/hp-hr * hp) / 1,000,000 (except for EPN 20-78 for which the Hp is back-calculated

^c calculated; MMBtu/hr * hr/yr

^d For EPN 1-10, the Specific Fuel Consumption is calculated as follows: 24.3 gal/hr / 520 Hp * 139,000 Btu/gal. The fuel consumption (gal/hr) is per LOOP and the Btu/gal for diesel was taken from http://www.engineeringtoolbox.com/energy-content-d_868.htm

Greenhouse Gas Emission Factors		
Pollutant	Global Warming Potential ^g	Emission Factor ^h (kg/MMBtu)
CO ₂	1	73.96
CH ₄	25	3.0E-03
N ₂ O	298	6.0E-04
CO ₂ e	-	-

^g Default global warming potentials from 40 CFR 98 Subpart A, Table A-1.

^h Default emission factors from 40 CFR 98 Subpart C, Tables C-1 and C-2, for diesel.

Greenhouse Gas Emissions Summary													
TEMPO ID	EPN	CO2			CH4			N2O			CO2e		
		(metric tpy) ⁱ	(short tpy) ⁱ	(lb/hr)	(metric tpy) ⁱ	(short tpy) ⁱ	(lb/hr)	(metric tpy) ⁱ	(short tpy) ⁱ	(lb/hr)	(metric tpy) ⁱ	(short tpy) ⁱ	(lb/hr)
EQT0009	15-78	42	46	919	0.04	0.05	1	0.1	0.1	2	42	46	922
EQT0011	17-78	35	38	766	0.04	0.04	1	0.1	0.1	2	35	38	768
EQT0012	18-78	45	49	982	0.05	0.05	1	0.1	0.1	2	45	49	985
EQT0014	20-78	14	16	313	0.01	0.02	0.3	0.03	0.04	1	14	16	314
EQT0015	21-78	6	6	123	0.01	0.01	0.1	0.01	0.01	0.3	6	6	124
EQT0018	35-88	21	23	457	0.02	0.02	0.5	0.1	0.1	1	21	23	458
EQT0019	38-91	26	29	571	0.03	0.03	1	0.1	0.1	1	26	29	573
EQT0020	5-99	57	63	1256	0.06	0.06	1	0.1	0.2	3	57	63	1260
EQT0021	1-07	24	27	536	0.02	0.03	1	0.1	0.1	1	24	27	538
EQT0022	2-07	24	27	536	0.02	0.03	1	0.1	0.1	1	24	27	538
EQT0023	3-07	35	38	766	0.04	0.04	1	0.1	0.1	2	35	38	768
EQT0024	4-07	35	38	766	0.04	0.04	1	0.1	0.1	2	35	38	768
EQT0025	5-07	14	15	306	0.01	0.02	0.3	0.03	0.04	1	14	15	307
EQT0026	6-07	9	10	192	0.01	0.01	0.2	0.02	0.02	0.5	9	10	192
EQT0047	1-10	25	28	551	0.03	0.03	1	0.1	0.1	1	25	28	553
TBD	1-16	35	38	766	0.04	0.04	1	0.1	0.1	2	35	38	768

ⁱ Calculated by using 40 CFR 98 Subpart C Equation C-1b.

^j Calculated by multiplying metric tons per year by 1.10231 short tons/metric ton, as per 40 CFR 98 Subpart A, Table A-2